

Applicant: Vladimir Bulovic
Application No.:10/693,022

Listing of Claims:

1. (Currently Amended) An array, comprising:

a plurality of light emitting devices disposed on a transparent substrate, the transparent substrate having an upper surface that contacts each ~~the~~ light emitting device, a lower surface distal from the light emitting device and a plurality of side surfaces, each of the side surfaces being substantially perpendicular to the upper surface; and

at least one photodetector arranged on the lower surface of the transparent substrate for detecting light emitted from the plurality of light emitting devices.

2. (Cancelled).

3. (Cancelled).

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Previously Presented) The array of claim 1, further comprising at least one additional photodetector formed over outer periphery edges of the upper surface.

8. (Original) The array of claim 1, further comprising a feedback circuit that measures a brightness level for each of the plurality of light emitting devices, and varies a voltage applied to individual ones of the light emitting devices to maintain a brightness level of each of the light emitting devices at

Applicant: Vladimir Bulovic
Application No.:10/693,022

a substantially constant level.

9. (Cancelled).

10. (Cancelled).

11. (Cancelled).

12. (Original) The array of claim 8, wherein the feedback circuit includes a compensation factor generator for generating a compensation factor for each of the plurality of light emitting devices and a memory array for storing the compensation factor for each of the plurality of light emitting devices.

13. (Original) A display comprising the array of claim 1.

14. (Currently Amended) A method for forming an array, comprising:

forming a plurality of light emitting devices disposed on a transparent substrate, said transparent substrate having an upper surface contacting the each light emitting device, a lower surface distal from the ~~[[t]]~~light emitting device and at least one side surface substantially perpendicular to said upper surface of the transparent substrate: and

forming a photodetector at the lower surface of the transparent substrate for detecting light emitted through the transparent substrate.

15. (Cancelled).

16. (Previously Presented) The method of claim 14, further comprising forming the photodetector on the side surface of the transparent substrate.

17. (Previously Presented) The

Applicant: Vladimir Bulovic
Application No.:10/693,022

method of claim 14, wherein the photodetector includes a plurality of photodetectors.

18. (Previously Presented) The method of claim 17, further comprising forming at least one of the photodetectors on each of the side surfaces.

19. (Cancelled).

20. (Original) The method of claim 14, further comprising forming a feedback circuit that measures a brightness level for each of the plurality of light emitting devices, and varies a voltage applied to individual ones of the light emitting devices to maintain a brightness level of each of the light emitting devices at a substantially constant level.

21. (Original) The method of claim 20, further comprising forming the feedback circuit with a compensation factor generator for generating a compensation factor for each of the plurality of light emitting devices and a memory array for storing the compensation factor for each of the plurality of light emitting devices.

22. (Cancelled).

23. (Cancelled).

24. (Cancelled).

25. (Cancelled).

26. (Cancelled).

27. (Cancelled).

28. (Cancelled).

29. (Currently Amended) An array, comprising:

a plurality of light emitting devices

Applicant: Vladimir Bulovic
Application No.:10/693,022

formed on a surface of a transparent substrate, the transparent substrate having an upper surface that contacts the each light emitting device, a lower surface distal from the light emitting device and a plurality of side surfaces; and

at least two photodetectors arranged on an opposite surface of the transparent substrate for detecting light emitted from the light emitting devices.

30. (Currently Amended) The array of claim 29, further comprising at least one additional photodetector formed over the outer periphery edges of the surface of the transparent substrate.

31. (Previously Presented) The array of claim 29, further comprising a feedback circuit that measures a brightness level for each of the plurality of light emitting devices, and varies a voltage applied to individual ones of the light emitting devices to maintain a brightness level of each of the light emitting devices at a substantially constant level.

32. (Previously Presented) The array of claim 31, wherein the feedback circuit includes a compensation factor generator for generating a compensation factor for each of the plurality of light emitting devices and a memory array for storing the compensation factor for each of the plurality of light emitting devices,

33. (Currently Amended) An array, comprising:

a plurality of light emitting devices disposed over a substrate having an upper surface that contacts the light emitting device, a lower surface distal from the light emitting device and a plurality of side

Applicant: Vladimir Bulovic
Application No.:10/693,022

surfaces[[,]]; and

a photodetector that detects light emitted through the substrate from the light emitting device, wherein the photodetector is on the lower surface and wherein at least one light emitting device comprises an OLED.

34. (Previously Presented) The array of claim 33 further comprising a feedback circuit that measures a brightness level for each of the plurality of light emitting devices, and varies a voltage applied to individual ones of the light emitting devices to maintain a brightness level of each of the light emitting devices at a substantially constant level.

35. (Previously Presented) The array of claim 34, wherein the feedback circuit includes a compensation factor generator for generating a compensation factor for each of the plurality of light emitting devices and a memory array for storing the compensation factor for each of the plurality of light emitting devices.

36. (Currently Amended) An array, comprising:

a plurality of light emitting devices disposed over a substrate having an upper surface that contacts the light emitting device, a lower surface distal from each ~~the~~ light emitting device and a plurality of side surfaces[[,]] and

a photodetector that detects light emitted through the substrate from the light emitting device, wherein the photodetector is on the lower surface and wherein at least one light emitting device comprises a PLED.

37. (Previously Presented) The

Applicant: Vladimir Bulovic
Application No.:10/693,022

array of claim 36, further comprising a feedback circuit that measures a brightness level for each of the plurality of light emitting devices, and varies a voltage applied to individual ones of the light emitting devices to maintain a brightness level of each of the light emitting devices at a substantially constant level.

38. (Previously Presented) The array of claim 37, wherein the feedback circuit includes a compensation factor generator for generating a compensation factor for each of the plurality of light emitting devices and a memory array for storing the compensation factor for each of the plurality of light emitting devices.

39. (Currently Amended) An array, comprising:

a plurality of light emitting devices disposed over a substrate having an upper surface that contacts the light emitting device, a ~~[[t]]~~lower surface distal from the each light emitting device and a plurality of side surfaces~~[[,]]~~; and

a photodetector that detects light emitted through the substrate from the light emitting device, wherein the photodetector is on the lower surface and wherein at least one light emitting device comprises a QDLED.

40. (Previously Presented) The array of claim 39, further comprising a feedback circuit that measures a brightness level for each of the plurality of light emitting devices, and varies a voltage applied to individual ones of the light emitting devices to maintain a brightness level of each of the light emitting devices at a substantially constant level.

41. (Previously Presented) The array of claim 40, wherein the feedback circuit includes a compensation factor generator

Applicant: Vladimir Bulovic
Application No.:10/693,022

for generating a compensation factor for each of the plurality of light emitting devices and a memory array for storing the compensation factor for each of the plurality of light emitting devices.

42. (Previously Presented) A display comprising the array of claim 39.

43. (Previously Presented) The array of claim 8, wherein the feedback circuit varies the voltage applied independently to the individual ones of the light emitting devices to maintain the brightness level of each of the light emitting devices at a substantially constant level.

44. (New) A display, comprising:

a plurality of light emitting devices disposed on an upper surface of a transparent substrate; and

at least one photodetector arranged on a non-display area of a lower surface of the transparent substrate for detecting light emitted from the plurality of light emitting devices.

45. (New) The display of claim 44, wherein the non-display area is an outer periphery area of the lower surface.

46. (New) The display of claim 45, wherein the light is waveguided light.

47. (New) The display of claim 46, further comprising a feedback circuit that measures a brightness level for each of the plurality of light emitting devices, and varies a voltage applied to individual ones of the light emitting devices to maintain a brightness level of each of the light emitting devices at

Applicant: Vladimir Bulovic
Application No.:10/693,022

a substantially constant level.

48. (New) The display of claim 47, wherein the feedback circuit includes a compensation factor generator for generating a compensation factor for each of the plurality of light emitting devices and a memory array for storing the compensation factor for each of the plurality of light emitting devices.

49. (New) The display of claim 48, wherein the plurality of light emitting devices is one of an organic light emitting device, a polymer light emitting device and a quantum dot light emitting diode.